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Introduction

Since its inception in 1993, the Southeast Gillnet Observer Program has followed the evolution and changes of the Florida-Georgia shark gillnet fishery (e.g. Carlson and Bethea 2007 and references therein, Passerotti et al. 2011). Currently, there are nearly 500 total directed and incidental shark permits issued in the US Atlantic and Gulf of Mexico, while the number of fishers using gillnet gear varies annually. Implementation of the most recent amendments to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan (NMFS 2007, 2010) have reduced gillnet effort targeting large coastal sharks (LCS) and small coastal sharks (SCS), respectively, and resulted in fishers increasingly targeting finfish species such as Spanish mackerel *Scomberomorus maculatus*, king mackerel *Scomberomorus cavalla*, and bluefish *Pomatomus saltatrix*, with varying types of gillnet gear as an alternative. Consequently, the southeast gillnet observer program currently covers all anchored (sink and stab), strike, or drift gillnet fishing regardless of target by vessels that fish from Florida to North Carolina and the Gulf of Mexico year-round.

Herein, we summarize fishing effort and catch and bycatch in these fisheries during January 2011 - December 2011, collectively referred to as '2011'.

Methods

Observer protocol

Vessels were selected on a quarterly basis (January, April, July, and September) randomly from a pool of vessels that had reported fishing with gillnet gear during the same quarter in the previous year in the NMFS Coastal Fisheries Logbook. Selection letters notifying

permit holders of required observer coverage were issued via U.S. Certified mail approximately one month prior to the upcoming selection period. Receipt of selection letters was confirmed via signature upon acceptance by the permit holder or their proxy. Once the permit holder received the selection letter, he or she was required to make contact with the observer coordinator and indicate intent to fish during the upcoming selection period. Contact was usually made by phone, and the observer coordinator gathered information concerning the vessel's name, captain, contact persons and phone numbers, communications and safety equipment available aboard the vessel, and information about the vessel's location, dates, and times of departure and return. Additional information collected included whether the vessel was active in another fishery, under repair, or no longer fishing. Upon notification of the intention to fish, the observer coordinator deployed an observer to the reported port of departure of permit holder's vessel. Because gillnet trips are generally 24 hours or less (from the time of departure from port to the time of return), the observer remained assigned to the vessel for a minimum of 3 trips.

Observations were made as the net was hauled aboard. The observer remained on the deck of the vessel in a position with an unobstructed view and recorded species and numbers of individuals caught. When species identification was questionable, the crew stopped hauling so that the observer could examine the animal(s) for positive identification. Status (alive or dead when boated) of individuals was recorded, and disposition of individuals brought onboard was recorded as kept, discarded alive, or discarded dead. Fork lengths (cm FL) were estimated for the entire catch. When time permitted after the haulback was complete, observers directly measured a random group of 10 individuals from each species for fork length (FL, measured on a straight line) in cm. Sex (sharks only) was determined when possible. Biological samples (e.g. otoliths, vertebrae, reproductive organs, stomach), when taken, were removed and placed on ice after

collection. Data and samples were submitted to the NMFS Southeast Fisheries Science Center (SEFSC), Panama City staff immediately upon completion of observed trips. The data were entered and proofed by SEFSC staff, examined by NMFS/SEFSC Sustainable Fisheries Division staff, and reviewed with observer contract staff to resolve any questions.

Results

A total of 402 sets comprising various gillnet fisheries were observed in 2011. Set locations ranged from North Carolina to the Florida Keys in the Atlantic Ocean (Figures 1-4). However, location-specific reports of trips cannot be documented herein due to vessel confidentiality laws, therefore observations will be summarized by gear type. Weights for shark and teleost catch referenced herein (Tables 7 and 8) were back-calculated using estimated length (cm FL) measurements and length-weight conversions (Wigley et al. 2003; NMFS, unpublished data).

Drift gillnet fishery

There were no vessels observed fishing with drift gillnets in 2011. In previous years, drift gillnets have been used to target large and small coastal sharks and mackerel species. Drift gillnet effort does still occur to some extent in the fishery, but has been limited by the recent changes to shark regulations.

Strike gillnet fishery

A total of 2 gillnet vessels were observed making 4 strike sets on 4 trips in 2011. These vessels targeted king mackerel exclusively. Further presentation of the data was not possible due to violation of vessel confidentiality.

Sink gillnet fishery

A total of 71 trips totaling 398 sink net sets on 23 vessels were observed in 2011. Trips were made targeting one or more of the following: shark (including spiny dogfish *Squalus acanthias*, finetooth shark *Carcharhinus isodon* and sandbar shark *Carcharhinus plumbeus*), Spanish mackerel, Atlantic croaker *Micropogonias undulatus*, and mixed teleosts (including king mackerel, southern kingfish *Menticirrhus americanus*, kingfish species, and spot *Leiostomus xanthurus*). Refinement of the data by target species was possible, except in the case of monkfish *Lophius* sp.. Gear characteristics and soak time for monkfish targeted sets was sufficiently different from the other mixed teleost sets that they were excluded.

Shark targeted sink gillnet

Thirteen observed trips were made on 5 vessels for a total of 36 sink gillnet sets targeting sharks. Vessels fished with nets ranging 91.4 – 548.6 m (300 - 1800 ft) long, net depths of 1.5 – 7.6 m (5 – 25 ft) and stretched mesh sizes 6.4 – 19.1 cm (2.5 – 7.5 in). Set duration averaged 0.07 hr (0.04 S.D.). Hauls averaged 0.56 hr (0.34 S.D.). The entire fishing process (time net was first set until time haul back was completed) averaged 7.64 hr (16.03 S.D.). Sets were made in waters averaging 14.6 m (4.3 S.D.) deep. Observed shark targeted sink gillnet fishing effort is illustrated in Figure 1.

Observed shark targeted sink gillnet catches

Catch composition by number of all shark targeted sets was 78.0 % elasmobranchs, 21.3 % teleosts, and 0.7 % invertebrates (Table 1). By number, shark catch was primarily spiny dogfish *Squalus acanthias* (89.2 %), Atlantic sharpnose shark *Rhizoprionodon terraenovae* (8.7 %) and bonnethead *Sphyrna tiburo* (0.7 %). By weight the shark catch was similar and made up mostly of spiny dogfish (97.8 %), followed by Atlantic sharpnose shark (1.5 %) (Table 5). Spot made up 35.8 % of the teleost catch by number, followed by Atlantic croaker (34.0 %), bluefish (7.2 %) and southern kingfish (6.8 %). Catches by weight of commercially important teleosts are given in Table 6.

Average size from shark targeted sets

The average (S.D.) lengths of sharks measured by target can be found in Table 7. Average (S.D.) fork lengths of sharks caught in shark targeted sets ranged from 60 cm (0) for spinner shark, to 101.6 cm (9.5) for finetooth shark. Average (S.D.) lengths of teleosts ($n \geq 5$) measured by target can be found in Table 8. Average (S.D.) fork lengths of teleosts caught in shark targeted sets ranged from 20.3 cm (1.1) for spot, to 35.8 cm (8.5) for seatrouts *Cynoscion* sp..

Spanish mackerel targeted sink gillnet

Forty-two observed trips were made on 16 vessels for a total of 270 sink gillnet sets targeting Spanish mackerel. Vessels fished with nets ranging 68.6 – 1554.5 m (225 - 5100 ft) long, net depths of 2.4 – 9.1 m (8 – 30 ft) and stretched mesh sizes 7.4 – 10.2 cm (2.9 – 4 in).

Set duration averaged 0.07 hr (0.05 S.D.). Hauls averaged 0.38 hr (0.36 S.D.). The entire fishing process (time net was first set until time haul back was completed) averaged 1.81 hr (1.19 S.D.). Sets were made in waters averaging 10.4 m (4.6 S.D.) deep. Observed Spanish mackerel targeted sink gillnet fishing effort is illustrated in Figure 2.

Observed Spanish mackerel targeted sink gillnet catches

Catch composition by number of all Spanish mackerel targeted sets was 89.8 % teleosts, 5.8 % elasmobranchs, and 4.4 % invertebrates (Table 2). By number, shark catch was primarily Atlantic sharpnose shark (63.4 %) and bonnethead (28.6 %). Larger individual scalloped hammerhead sharks *Sphyrna lewini* made up 14.0 % of the catch by weight, reducing the relative percentage of Atlantic sharpnose shark and bonnethead shark to 46.7 % and 25.3 % respectively (Table 5). Spanish mackerel made up 48.6 % of the teleost catch by number, followed by bluefish (23.4 %), Atlantic bumper *Chloroscombrus chrysurus* (10.0 %) and Atlantic butterfish *Peprilus triacanthus* (4.7 %). Catches by weight of commercially important teleosts are given in Table 6.

Average size from Spanish mackerel targeted sets

Average (S.D.) fork lengths of sharks caught in Spanish mackerel targeted sets ranged from 59.1 cm (20.5) for Atlantic sharpnose shark, to 113.0 cm (0) for scalloped hammerhead shark (Table 7). Average (S.D.) fork lengths of teleosts caught in Spanish mackerel targeted sets ranged from 16.12 cm (2.2) for harvestfish *Peprilus alepidotus*, to 113.0 cm (0) for dealfish family *Trachipteridae* (Table 8).

Protected resources interactions from Spanish mackerel targeted sets

One interaction with a protected resource was documented in 270 sets observed targeting Spanish mackerel with sink gillnets in 2011. One green sea turtle *Chelonia mydas* was caught and was released alive (0.005 % of the total catch; Table 2).

Atlantic croaker targeted sink gillnet

Ten observed trips were made on 5 vessels targeting Atlantic croaker for a total of 68 sink gillnet sets. Vessels fished with nets ranging 91.4 – 365.8 m (300 - 1200 ft) long, net depths of 1.9 – 11.6 m (6.3 – 38 ft) and stretched mesh sizes 7.6 – 9.5 cm (3 – 3.75 in). Set duration averaged 0.04 hr (0.03 S.D.). Hauls averaged 0.55 hr (0.38 S.D.). The entire fishing process (time net was first set until time haul back was completed) averaged 6.44 hr (13.15 S.D.). Sets were made in waters averaging 34.7 m (11.3 S.D.) deep. Observed croaker targeted sink gillnet fishing effort is illustrated in Figure 3.

Observed Atlantic croaker targeted sink gillnet catches

Catch composition by number of all croaker targeted sets was 96.7 % teleosts, 2.8 % elasmobranchs, and 0.5 % invertebrates (Table 3). By number, shark catch was primarily spiny dogfish (83.9 %), Atlantic sharpnose shark (11.0 %) and smooth dogfish (4.1 %). By weight the shark catch was similar and made up mostly of spiny dogfish (95.5 %) and Atlantic sharpnose shark (2.5 %) (Table 5). Atlantic croaker made up 91.4 % of the teleost catch by number, followed by Atlantic menhaden, *Brevoortia tyrannus* (6.4 %) and bluefish (1.3 %). Catches by weight of commercially important teleosts are given in Table 6.

Average size from Atlantic croaker targeted sets

Average (S.D.) fork lengths of sharks caught in Atlantic croaker targeted sets ranged from 79.0 cm (2.8) for spiny dogfish, to 98.0 cm (0) for Atlantic angel shark *Squatina dumeril* (Table 7). Average (S.D.) fork lengths of teleosts caught in croaker targeted sets ranged from 17.8 cm (3.4) for Atlantic butterfish *Peprilus triacanthus*, to 83.0 cm (0) for skipjack *Euthynnus pelamis* (Table 8).

Mixed teleost targeted sink gillnet

Seven trips targeting mixed teleosts were observed on 5 vessels for a total of 21 sink gillnet sets. Vessels fished with nets ranging 73.2 – 457.2 m (240 - 1500 ft) long, net depths of 1.5 – 6.4 m (5 – 21 ft) and stretched mesh sizes 6.4 – 15.2 cm (2.5 – 6 in). Set duration averaged 0.10 hr (0.05 S.D.). Hauls averaged 0.60 hr (0.40 S.D.). The entire fishing process (time net was first set until time haul back was completed) averaged 3.17 hr (1.16 S.D.). Sets were made in waters averaging 11.2 m (8.2 S.D.) deep. Observed mixed teleost targeted sink gillnet fishing effort is illustrated in Figure 4.

Observed mixed teleost targeted sink gillnet catches

Catch composition by number of all mixed teleost targeted sets was 88.9 % teleosts, 10.0 % elasmobranchs, and 1.1 % invertebrates (Table 4). By number, shark catch was primarily Atlantic sharpnose shark (68.0 %), smooth dogfish (17.8 %) and bonnethead (6.2 %). By weight the shark catch was similar, but again few larger scalloped hammerhead sharks made up 6.0 %. The remaining weight was mainly Atlantic sharpnose shark (51.0 %) and smooth dogfish (25.4 %) (Table 5). Spot made up 44.2 % of the teleost catch by number, followed by

Atlantic croaker (17.2 %), yellowfin menhaden *Brevoortia smithi* (13.9 %) and Atlantic bumper (7.1 %). Catches by weight of commercially important teleosts are given in Table 6.

Average size from mixed teleost targeted sets

Average (S.D.) fork lengths of sharks caught in mixed teleost targeted sets ranged from 71.6 cm (7.7) for Atlantic sharpnose shark, to 104.0 cm (0) for finetooth shark (Table 7).

Average (S.D.) fork lengths of teleosts caught in mixed teleost targeted sets ranged from 31.0 cm (2.8) for southern kingfish, to 125.0 cm (9.9) for Atlantic sturgeon *Acipenser oxyrhincus* (Table 8).

Discussion

In 2011, observer coverage confirmed the trend for declining effort in the LCS targeted gillnet fishery. Strike gillnet gear was observed exclusively in teleost-targeted sets. The absence of drift gillnet effort can be explained by random exclusion from the 2011 vessel selection of the small proportion of the fleet that still utilizes this gear. Sink gillnet fishers continued to target shark species for which landing limitations were less restrictive (SCS, smooth and spiny dogfish). The majority of the sink gillnet effort targeted teleost species. Incidental take of protected species remained a rare occurrence. However, there were observed interactions with Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) in Atlantic croaker and mixed teleost targeted sets (Tables 3 & 4). The recent listing of the Carolina and South Atlantic distinct population segments (DPSs) of Atlantic sturgeon as ‘endangered’ under the Endangered Species

Act (ESA) of 1973 (77 FR 5914) will necessitate further data collection to monitor the potential for incidental take in southeast gillnet fisheries.

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Figure 1. Distribution of observed sink gillnets sets targeting shark, 2011.

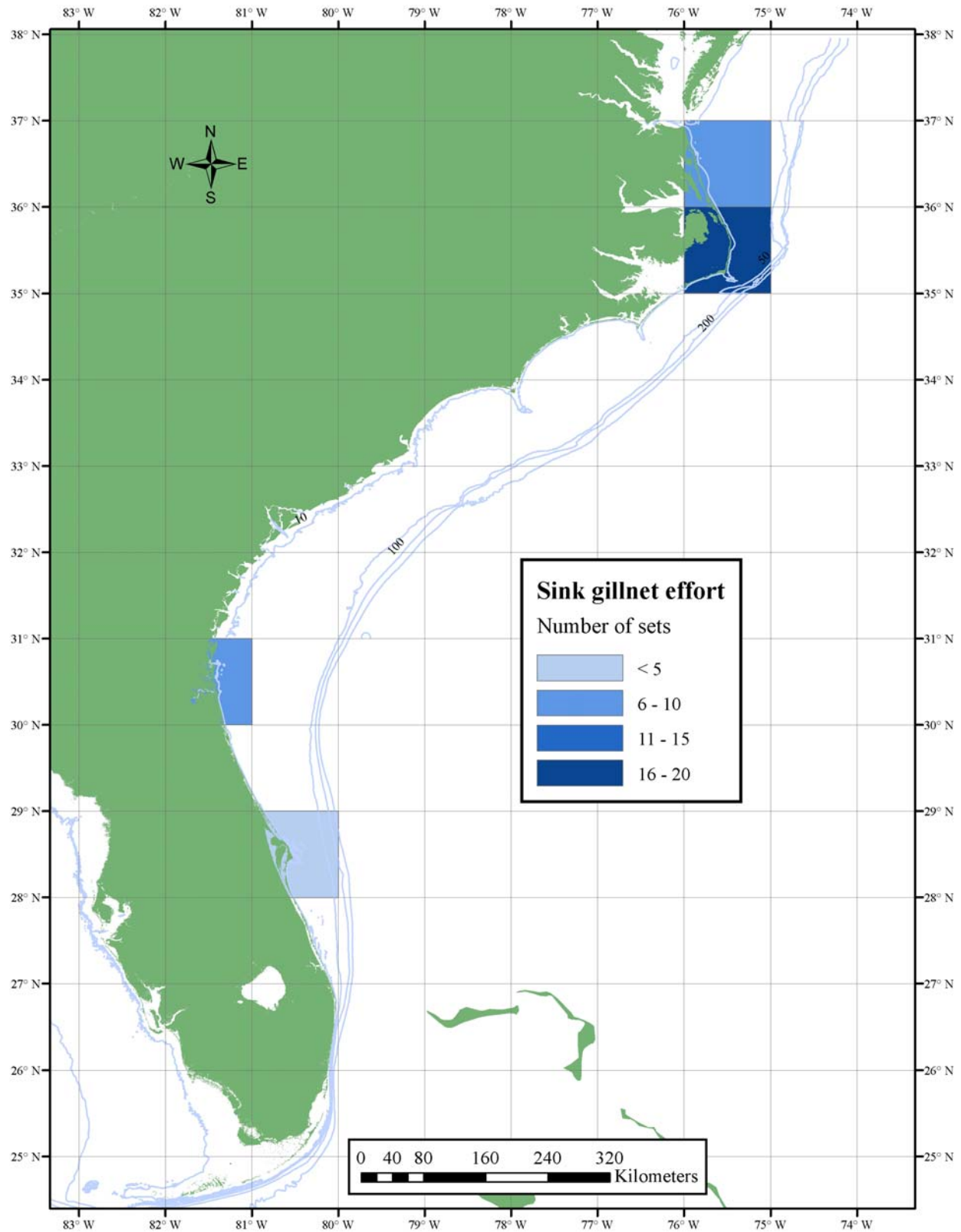


Figure 2. Distribution of observed sink gillnets sets targeting Spanish mackerel, 2011.

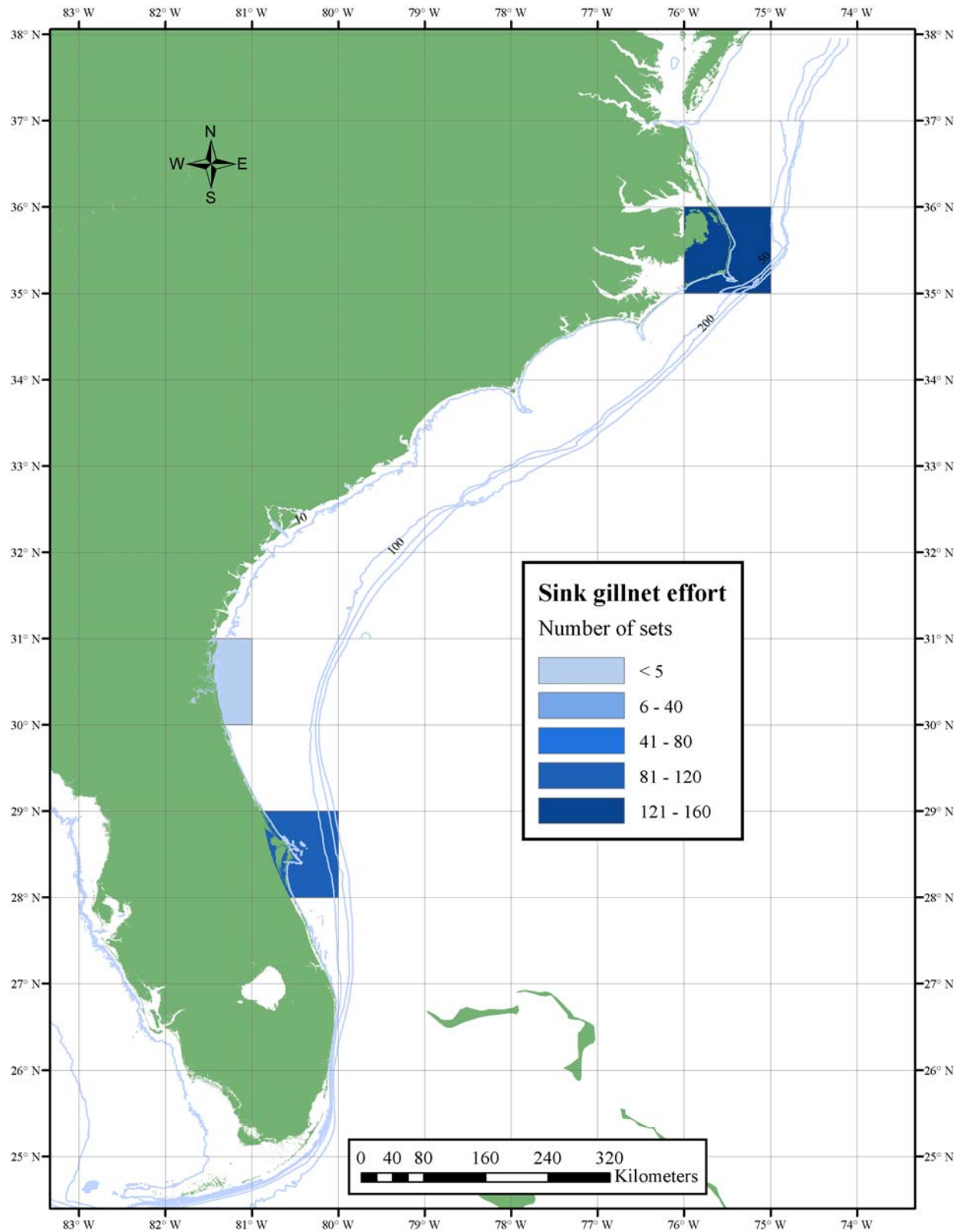


Figure 3. Distribution of observed sink gillnets sets targeting Atlantic croaker, 2011.

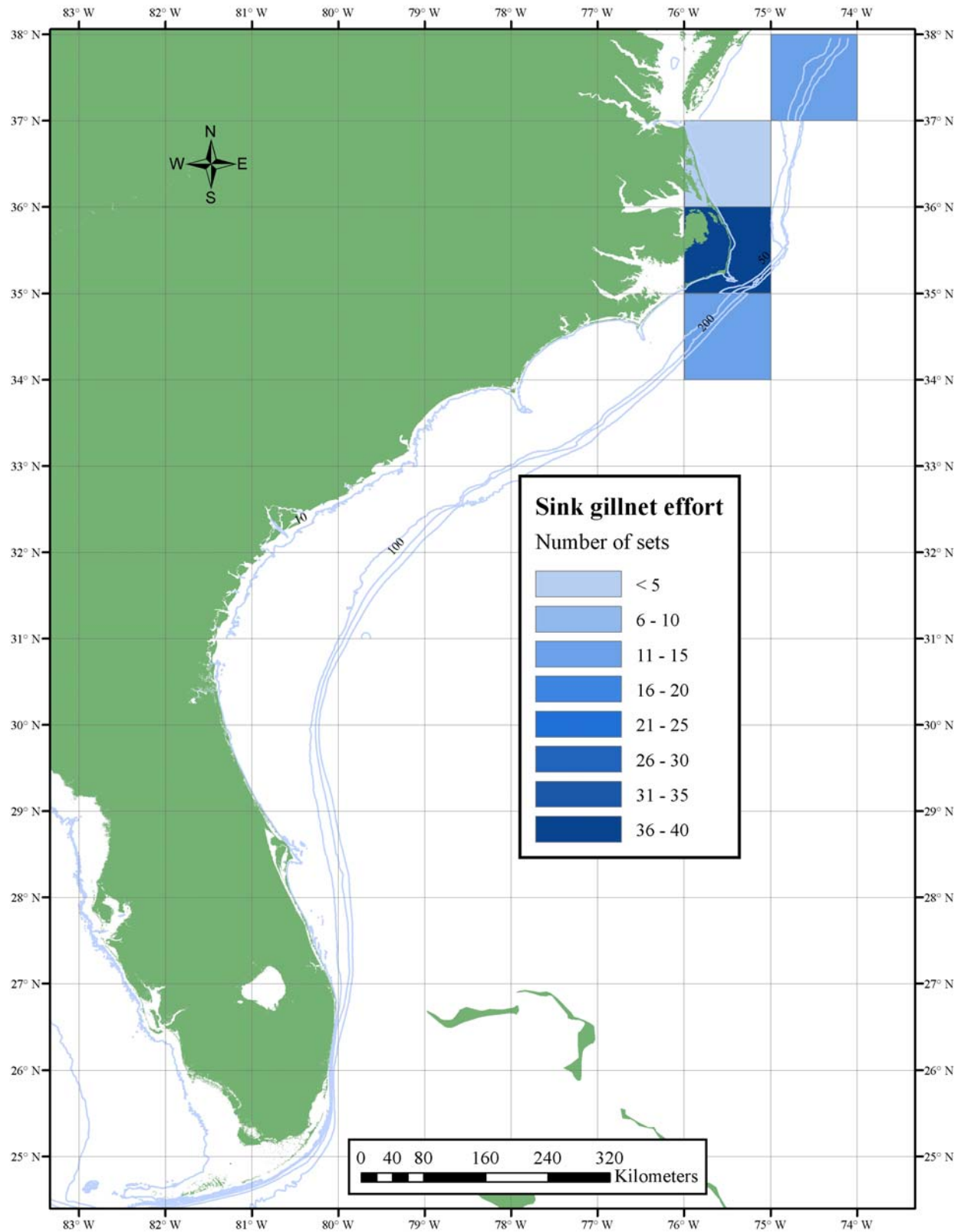


Figure 4. Distribution of observed sink gillnets sets targeting mixed teleost, 2011.

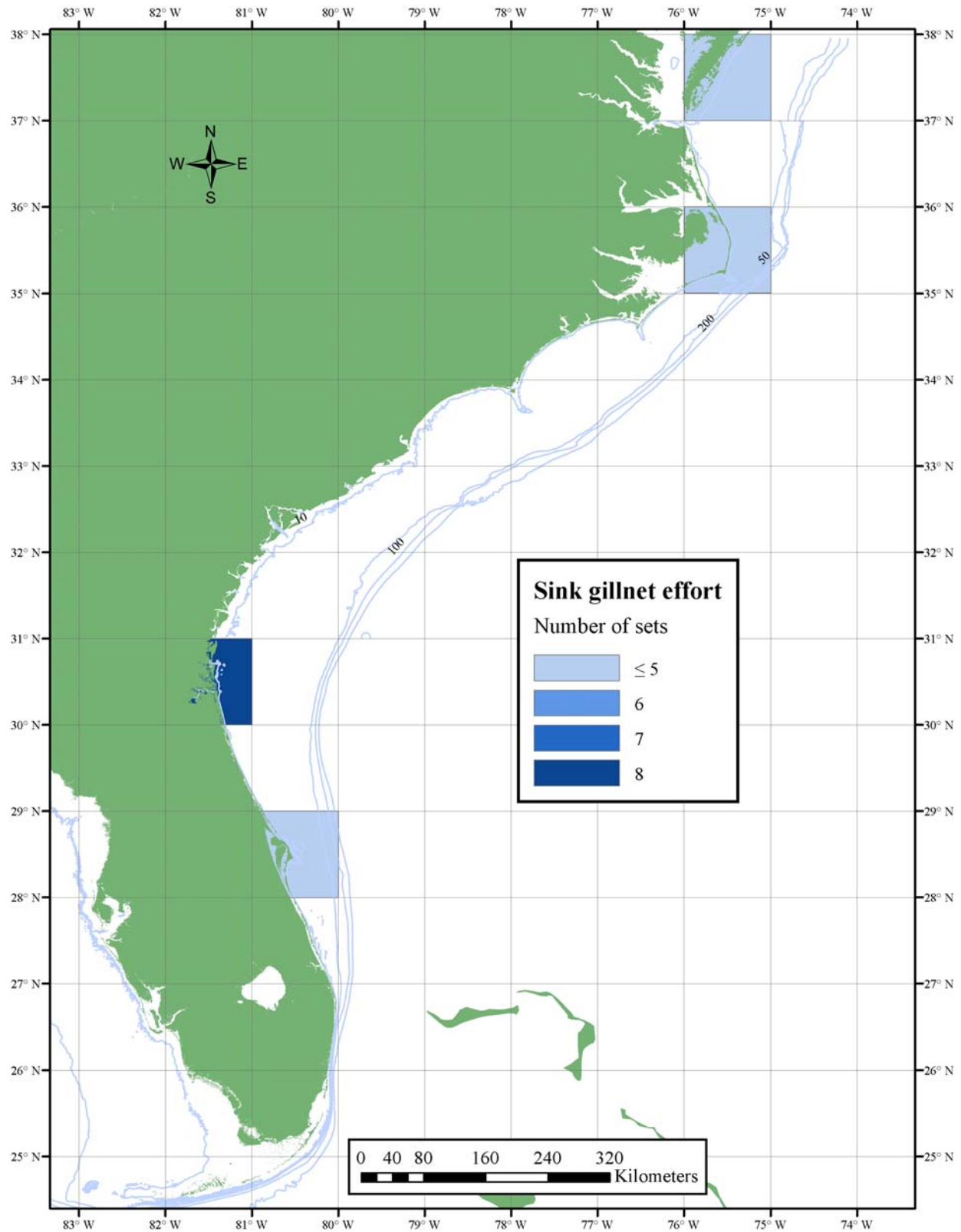


Table 1. Total sink gillnet catch from shark targeted sets by species and species disposition in order of decreasing abundance for all observed trips, 2011. Catch disposition is by percent kept (Kept %), percent discarded alive (D.A. %), and percent discarded dead (D.D. %).

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Squalus acanthias</i>	Spiny dogfish	3133	97.1	2.3	0.6
<i>Leiostomus xanthurus</i>	Spot	344	100.0	0.0	0.0
<i>Micropogonias undulatus</i>	Atlantic croaker	327	99.7	0.3	0.0
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	306	97.3	2.0	0.7
<i>Pomatomus saltatrix</i>	Bluefish	69	49.3	36.2	14.5
<i>Menticirrhus americanus</i>	Southern kingfish	65	96.9	0.0	3.1
<i>Brevoortia smithi</i>	Yellowfin menhaden	55	67.3	0.0	32.7
<i>Larimus fasciatus</i>	Banded drum	46	58.7	17.4	23.9
<i>Sphyrna tiburo</i>	Bonnethead shark	24	87.5	4.2	8.3
<i>Echinodermata</i>	Sea urchins	23	0.0	95.6	4.4
<i>Carcharhinus limbatus</i>	Blacktip shark	14	0.0	100.0	0.0
<i>Cynoscion</i> sp.	Seatrouts	12	41.7	8.3	50.0
<i>Carcharhinus isodon</i>	Finetooth shark	11	100.0	0.0	0.0
<i>Carcharhinus acronotus</i>	Blacknose shark	9	100.0	0.0	0.0
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	9	100.0	0.0	0.0
<i>Peprilus triacanthus</i>	Atlantic butterfish	9	66.7	0.0	33.3
<i>Rachycentron canadum</i>	Cobia	7	14.3	28.6	57.1
<i>Dasyatis</i> sp.	Stingrays	6	100.0	0.0	0.0
<i>Sphyrna lewini</i>	Scalloped hammerhead shark	6	33.3	66.7	0.0
<i>Mustelus canis</i>	Smooth dogfish	5	80.0	20.0	0.0
<i>Dasyatis sayi</i>	Bluntnose stingray	4	0.0	100.0	0.0
<i>Anthozoa</i>	Coral	3	0.0	100.0	0.0
<i>Carcharhinus brevipinna</i>	Spinner shark	3	0.0	66.7	33.3
<i>Rhinoptera bonasus</i>	Cownose ray	3	0.0	66.7	33.3
<i>Lagodon rhomboides</i>	Pinfish	2	0.0	100.0	0.0
<i>Limulus polyphemus</i>	Horseshoe crab	2	0.0	100.0	0.0
<i>Myliobatis</i> sp.	Eagle rays	2	0.0	100.0	0.0
<i>Paralichthys</i> sp.	Flounders	2	100.0	0.0	0.0
<i>Scomberomorus cavalla</i>	King mackerel	2	100.0	0.0	0.0
<i>Scomberomorus maculatus</i>	Spanish mackerel	2	100.0	0.0	0.0
<i>Scyphozoa</i>	Jellyfish	2	0.0	100.0	0.0
<i>Trachinotus carolinus</i>	Florida pompano	2	100.0	0.0	0.0
<i>Alopias</i> sp.	Thresher sharks	1	0.0	100.0	0.0
<i>Asteroidea</i>	Sea stars	1	0.0	100.0	0.0
<i>Brevoortia tyrannus</i>	Atlantic menhaden	1	0.0	100.0	0.0
<i>Calappa flammea</i>	Flame box crab	1	0.0	100.0	0.0
<i>Caranx crysos</i>	Bluerunner jack	1	100.0	0.0	0.0
<i>Euthynnus alletteratus</i>	Little tunny	1	100.0	0.0	0.0
<i>Mollusca</i>	Molluscs	1	0.0	100.0	0.0

Table 1, cont.

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Prionotus</i> sp.	Searobins	1	0.0	0.0	100.0
<i>Rhomboplites aurorubens</i>	Vermillion snapper	1	0.0	100.0	0.0
<i>Selene setapinnis</i>	Moonfish	1	100.0	0.0	0.0
<i>Seriola fasciata</i>	Lesser amberjack	1	100.0	0.0	0.0
<i>Sparidae</i>	Porgy family	1	100.0	0.0	0.0
<i>Sphyraenidae</i>	Barracuda family	1	100.0	0.0	0.0
<i>Brachyura</i>	Crab	1	0.0	100.0	0.0

Table 2. Total sink gillnet catch from Spanish mackerel targeted sets by species and species disposition in order of decreasing abundance for all observed trips, 2011. Catch disposition is by percent kept (Kept %), percent discard alive (D.A. %), and percent discard dead (D.D. %).

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Scomberomorus maculatus</i>	Spanish mackerel	8892	98.7	0.0	1.3
<i>Pomatomus saltatrix</i>	Bluefish	4278	97.1	0.6	2.3
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	1834	26.6	44.3	29.1
<i>Peprilus triacanthus</i>	Atlantic butterfish	853	96.1	1.2	2.7
<i>Scyphozoa</i>	Jellyfish	742	0.0	96.9	3.1
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	711	9.7	57.5	32.8
<i>Sphyrna tiburo</i>	Bonnethead shark	320	33.1	35.0	31.9
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	248	98.4	0.0	1.6
<i>Auxis rochei</i>	Bullet mackerel	238	100.0	0.0	0.0
<i>Caranx crysos</i>	Bluerunner jack	209	97.1	0.5	2.4
<i>Caranx hippos</i>	Crevalle jack	145	96.5	2.8	0.7
<i>Brevoortia smithi</i>	Yellowfin menhaden	142	67.6	11.3	21.1
<i>Larimus fasciatus</i>	Banded drum	142	0.0	45.8	54.2
<i>Peprilus alepidotus</i>	Harvestfish	135	53.4	29.6	17.0
<i>Leiostomus xanthurus</i>	Spot	132	81.8	8.3	9.9
<i>Selene setapinnis</i>	Moonfish	130	31.5	37.7	30.8
<i>Opisthonema oglinum</i>	Atlantic thread herring	119	1.7	3.4	94.9
<i>Menticirrhus</i> sp.	Kingfish	95	94.7	2.1	3.2
<i>Menticirrhus americanus</i>	Southern kingfish	89	93.2	2.3	4.5
<i>Callinectes sapidus</i>	Blue crab	70	0.0	84.3	15.7
<i>Euthynnus alletteratus</i>	Little tunny	70	100.0	0.0	0.0
<i>Chaetodipterus faber</i>	Spadefish	60	5.0	35.0	60.0
<i>Rachycentron canadum</i>	Cobia	60	1.7	71.6	26.7
<i>Micropogonias undulatus</i>	Atlantic croaker	50	26.0	24.0	50.0
<i>Trachinotus carolinus</i>	Florida pompano	49	85.8	12.2	2.0
<i>Arius felis</i>	Hardhead catfish	47	0.0	93.6	6.4
<i>Elops saurus</i>	Ladyfish	47	76.6	8.5	14.9
<i>Cynoscion regalis</i>	Weakfish seatrout	41	92.7	2.4	4.9
<i>Rhinoptera bonasus</i>	Cownose ray	27	0.0	92.6	7.4
<i>Brevoortia tyrannus</i>	Atlantic menhaden	26	0.0	46.2	53.8
<i>Brachyura</i>	Crab	24	20.8	50.0	29.2
<i>Carcharhinus limbatus</i>	Blacktip shark	23	39.1	52.2	8.7
<i>Auxis thaza</i>	Frigate mackerel	21	100.0	0.0	0.0
<i>Carcharhinus plumbeus</i>	Sandbar shark	19	0.0	100.0	0.0
<i>Mugil curema</i>	Silver mullet	17	0.0	0.0	100.0
<i>Mustelus canis</i>	Smooth dogfish	16	0.0	100.0	0.0
<i>Asteroidea</i>	Sea stars	14	14.3	64.3	21.4
<i>Scomberomorus cavalla</i>	King mackerel	14	42.9	21.4	35.7
<i>Selene vomer</i>	Lookdown	13	23.1	23.1	53.8

Table 2, cont.

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Sparidae</i>	Porgy family	13	100.0	0.0	0.0
<i>Portunidae</i>	Portunid crabs	12	0.0	100.0	0.0
<i>Raja eglanteria</i>	Clearnose skate	12	0.0	91.7	8.3
<i>Sphyrna lewini</i>	Scalloped hammerhead shark	12	16.7	58.3	25.0
<i>Aluterus</i> sp.	Filefishes	10	0.0	80.0	20.0
<i>Paralichthys</i> sp.	Flounders	10	10.0	90.0	0.0
<i>Aluterus monoceros</i>	Unicorn filefish	8	62.5	37.5	0.0
<i>Cancer borealis</i>	Jonah crab	8	0.0	100.0	0.0
<i>Serranidae</i>	Seabass family	8	100.0	0.0	0.0
<i>Synodontidae</i>	Lizardfish family	8	0.0	50.0	50.0
<i>Carcharhinus isodon</i>	Finetooth shark	7	100.0	0.0	0.0
<i>Clupeidae</i>	Herring family	7	0.0	14.3	85.7
<i>Prionotus</i> sp.	Searobins	7	0.0	100.0	0.0
<i>Carcharhinus brevipinna</i>	Spinner shark	6	50.0	33.3	16.7
<i>Dasyatis sayi</i>	Bluntnose stingray	6	0.0	66.7	33.3
<i>Gymnura</i> sp.	Butterfly ray	6	0.0	100.0	0.0
<i>Aetobatis narinari</i>	Spotted eagle ray	5	0.0	100.0	0.0
<i>Carcharhinus acronotus</i>	Blacknose shark	5	100.0	0.0	0.0
<i>Limulus polyphemus</i>	Horseshoe crab	5	0.0	80.0	20.0
<i>Majidae</i>	Spider crabs	5	0.0	100.0	0.0
<i>Pogonias cromis</i>	Black drum	4	100.0	0.0	0.0
<i>Cancer irroratus</i>	Atlantic rock crab	3	0.0	0.0	100.0
<i>Cynoscion nothus</i>	Silver seatrout	3	66.7	0.0	33.3
<i>Cynoscion</i> sp.	Seatrouts	3	66.7	0.0	33.3
<i>Brama</i> sp.	Pomfrets	2	100.0	0.0	0.0
<i>Cancer</i> sp.	Cancer crabs	2	0.0	0.0	100.0
<i>Carangidae</i>	Jack family	2	0.0	100.0	0.0
<i>Dasyatis americana</i>	Southern stingray	2	0.0	100.0	0.0
<i>Menticirrhus saxatilis</i>	Northern kingfish	2	100.0	0.0	0.0
<i>Remora remora</i>	Remora	2	0.0	100.0	0.0
<i>Scorpaenidae</i>	Scorpionfish family	2	0.0	0.0	100.0
<i>Umbrina coroides</i>	Sand drum	2	100.0	0.0	0.0
<i>Urophycis floridana</i>	Southern hake	2	100.0	0.0	0.0
<i>Carcharias taurus</i>	Sand tiger shark	1	0.0	100.0	0.0
<i>Chelonia mydas</i>	Green sea turtle	1	0.0	100.0	0.0
<i>Decapoda</i>	Shrimp	1	0.0	100.0	0.0
<i>Diodontidae</i>	Spiny puffer family	1	0.0	100.0	0.0
<i>Manta birostris</i>	Manta ray	1	0.0	100.0	0.0
<i>Myliobatis freminvillei</i>	Bullnose ray	1	0.0	0.0	100.0
<i>Ogcocephalus radiatus</i>	Polka-dot batfish	1	100.0	0.0	0.0
<i>Penaeidae</i>	Shrimp	1	0.0	100.0	0.0

Table 2, cont.

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Rhinobatos lentiginosus</i>	Atlantic guitarfish	1	0.0	100.0	0.0
<i>Sarda sarda</i>	Bonito	1	100.0	0.0	0.0
<i>Seriola zonata</i>	Banded rudderfish	1	100.0	0.0	0.0
<i>Synodus foetens</i>	Inshore lizardfish	1	0.0	100.0	0.0
<i>Trachipteridae</i>	Dealfish family	1	100.0	0.0	0.0
<i>Tylosurus crocodilus</i>	Houndfish	1	100.0	0.0	0.0

Table 3. Total sink gillnet catch from Atlantic croaker targeted sets by species and species disposition in order of decreasing abundance for all observed trips, 2011. Catch disposition is by percent kept (Kept %), percent discard alive (D.A. %), and percent discard dead (D.D. %).

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Micropogonias undulatus</i>	Atlantic croaker	25485	99.4	0.1	0.5
<i>Brevoortia tyrannus</i>	Atlantic menhaden	1779	57.1	3.5	39.4
<i>Squalus acanthias</i>	Spiny dogfish	680	0.0	99.7	0.3
<i>Pomatomus saltatrix</i>	Bluefish	374	98.7	0.0	1.3
<i>Peprilus triacanthus</i>	Atlantic butterfish	104	98.1	0.0	1.9
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	89	46.1	49.4	4.5
<i>Cancer borealis</i>	Jonah crab	85	0.0	74.1	25.9
<i>Alosa</i> sp.	Shads	78	100.0	0.0	0.0
<i>Mustelus canis</i>	Smooth dogfish	33	9.1	84.8	6.1
<i>Majidae</i>	Spider crabs	30	0.0	100.0	0.0
<i>Leiostomus xanthurus</i>	Spot	26	100.0	0.0	0.0
<i>Callinectes sapidus</i>	Blue crab	16	0.0	100.0	0.0
<i>Hippocampus erectus</i>	Lined seahorse	6	0.0	83.3	16.7
<i>Prionotus</i> sp.	Searobins	6	0.0	100.0	0.0
<i>Scomberomorus cavalla</i>	King mackerel	6	100.0	0.0	0.0
<i>Asteroidea</i>	Sea stars	4	50.0	50.0	0.0
<i>Menticirrhus americanus</i>	Southern kingfish	4	100.0	0.0	0.0
<i>Tetraodontidae</i>	Puffer family	4	0.0	100.0	0.0
<i>Cynoscion regalis</i>	Weakfish seatrout	3	100.0	0.0	0.0
<i>Euthynnus alletteratus</i>	Little tunny	3	100.0	0.0	0.0
<i>Sphyrna lewini</i>	Scalloped hammerhead shark	3	0.0	33.3	66.7
<i>Carcharhinus brevipinna</i>	Spinner shark	2	0.0	100.0	0.0
<i>Carcharhinus plumbeus</i>	Sandbar shark	2	0.0	50.0	50.0
<i>Cynoscion</i> sp.	Seatrouts	2	0.0	100.0	0.0
<i>Limulus polyphemus</i>	Horseshoe crab	2	0.0	100.0	0.0
<i>Scyphozoa</i>	Jellyfish	2	0.0	0.0	100.0
<i>Squatina dumeril</i>	Atlantic angel shark	2	0.0	100.0	0.0
<i>Acipenser oxyrhyncus</i>	Atlantic sturgeon	1	0.0	0.0	100.0
<i>Cancer irroratus</i>	Atlantic rock crab	1	0.0	0.0	100.0
<i>Centropristis striata</i>	Black seabass	1	0.0	100.0	0.0
<i>Euthynnus pelamis</i>	Skipjack tuna	1	100.0	0.0	0.0
<i>Lophius</i> sp.	Monkfish anglerfish	1	100.0	0.0	0.0
<i>Menticirrhus saxatilis</i>	Northern kingfish	1	100.0	0.0	0.0
<i>Rachycentron canadum</i>	Cobia	1	0.0	0.0	100.0
<i>Raja eglanteria</i>	Clearnose skate	1	0.0	100.0	0.0

Table 4. Total sink gillnet catch from mixed teleost targeted sets by species and species disposition in order of decreasing abundance for all observed trips, 2011. Catch disposition is by percent kept (Kept %), percent discard alive (D.A. %), and percent discard dead (D.D. %).

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Leiostomus xanthurus</i>	Spot	1666	91.7	0.2	8.1
<i>Micropogonias undulatus</i>	Atlantic croaker	649	97.5	0.0	2.5
<i>Brevoortia smithi</i>	Yellowfin menhaden	524	100.0	0.0	0.0
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	287	29.6	31.7	38.7
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	269	95.9	1.5	2.6
<i>Menticirrhus americanus</i>	Southern kingfish	226	98.2	0.0	1.8
<i>Larimus fasciatus</i>	Banded drum	165	0.0	60.0	40.0
<i>Pomatomus saltatrix</i>	Bluefish	135	72.6	20.0	7.4
<i>Mustelus canis</i>	Smooth dogfish	75	90.7	9.3	0.0
<i>Callinectes sapidus</i>	Blue crab	36	0.0	100.0	0.0
<i>Euthynnus alletteratus</i>	Little tunny	33	100.0	0.0	0.0
<i>Prionotus</i> sp.	Searobins	30	0.0	60.0	40.0
<i>Sphyrna tiburo</i>	Bonnethead shark	26	100.0	0.0	0.0
<i>Peprilus triacanthus</i>	Atlantic butterfish	14	100.0	0.0	0.0
<i>Cynoscion</i> sp.	Seatrouths	11	72.7	0.0	27.3
<i>Lagodon rhomboides</i>	Pinfish	10	0.0	20.0	80.0
<i>Sphyrna lewini</i>	Scalloped hammerhead shark	9	100.0	0.0	0.0
<i>Carcharhinus acronotus</i>	Blacknose shark	8	100.0	0.0	0.0
<i>Echinodermata</i>	Sea urchins	8	0.0	100.0	0.0
<i>Carcharhinus plumbeus</i>	Sandbar shark	7	0.0	85.7	14.3
<i>Scomberomorus maculatus</i>	Spanish mackerel	7	100.0	0.0	0.0
<i>Selene setapinnis</i>	Moonfish	7	0.0	100.0	0.0
<i>Synodontidae</i>	Lizardfish family	4	0.0	0.0	100.0
<i>Carcharhinus limbatus</i>	Blacktip shark	3	100.0	0.0	0.0
<i>Centropristis striata</i>	Black seabass	3	0.0	100.0	0.0
<i>Peprilus alepidotus</i>	Harvestfish	3	100.0	0.0	0.0
<i>Squatina dumeril</i>	Atlantic angel shark	3	0.0	100.0	0.0
<i>Acipenser oxyrhyncus</i>	Atlantic sturgeon	2	0.0	100.0	0.0
<i>Cancer irroratus</i>	Atlantic rock crab	2	0.0	100.0	0.0
<i>Caranx crysos</i>	Bluerunner jack	2	100.0	0.0	0.0
<i>Carcharhinus isodon</i>	Finetooth shark	2	100.0	0.0	0.0
<i>Chaetodipterus faber</i>	Spadefish	2	100.0	0.0	0.0
<i>Cynoscion nothus</i>	Silver seatrout	2	100.0	0.0	0.0
<i>Echeneis naucrates</i>	Sharksucker	2	0.0	100.0	0.0
<i>Elasmobranchii</i>	Sharks	2	0.0	100.0	0.0
<i>Asteroidea</i>	Sea stars	1	0.0	0.0	100.0
<i>Dasyatis sayi</i>	Bluntnose stingray	1	0.0	100.0	0.0
<i>Decapoda</i>	Shrimp	1	0.0	100.0	0.0
<i>Paralichthys</i> sp.	Flounders	1	0.0	100.0	0.0

Table 4, cont.

Species	Common Name	Total Number Caught	Kept (%)	D.A. (%)	D.D. (%)
<i>Rachycentron canadum</i>	Cobia	1	100.0	0.0	0.0
<i>Scomberomorus cavalla</i>	King mackerel	1	100.0	0.0	0.0
<i>Serranidae</i>	Seabass family	1	0.0	100.0	0.0

Table 5. Estimated shark catch by weight (kg), back-calculated from estimated lengths of all sharks observed caught in sink gillnet gear by target, 2011.

Target	Species	Common Name	Catch (kg)	% Total Sharks
Shark	<i>Squalus acanthias</i>	Spiny dogfish	56138.60	97.8
	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	860.73	1.5
	<i>Alopias</i> sp.	Thresher sharks	110.35	0.2
	<i>Carcharhinus limbatus</i>	Blacktip shark	72.16	0.1
	<i>Carcharhinus isodon</i>	Finetooth shark	60.16	0.1
	<i>Sphyrna tiburo</i>	Bonnethead shark	47.74	0.1
	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	42.09	0.1
	<i>Carcharhinus acronotus</i>	Blacknose shark	34.02	0.1
	<i>Mustelus canis</i>	Smooth dogfish	13.08	0.0
	<i>Carcharhinus brevipinna</i>	Spinner shark	4.00	0.0
	Total – Shark		57382.93	--
Spanish mackerel	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	878.26	46.6
	<i>Sphyrna tiburo</i>	Bonnethead shark	475.42	25.3
	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	263.74	14.0
	<i>Carcharhinus limbatus</i>	Blacktip shark	101.23	5.4
	<i>Carcharhinus plumbeus</i>	Sandbar shark	50.20	2.7
	<i>Carcharhinus isodon</i>	Finetooth shark	35.22	1.9
	<i>Carcharhinus acronotus</i>	Blacknose shark	28.67	1.5
	<i>Carcharhinus brevipinna</i>	Spinner shark	24.08	1.3
	<i>Carcharias taurus</i>	Sand tiger shark	15.65	0.8
	<i>Mustelus canis</i>	Smooth dogfish	9.43	0.5
	Total – Spanish mackerel		1881.90	--
Atlantic Croaker	<i>Squalus acanthias</i>	Spiny dogfish	6653.92	95.5
	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	173.02	2.5
	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	51.13	0.7
	<i>Mustelus canis</i>	Smooth dogfish	37.31	0.5
	<i>Carcharhinus plumbeus</i>	Sandbar shark	26.70	0.4
	<i>Squatina dumeril</i>	Atlantic angel shark	18.55	0.3
	<i>Carcharhinus brevipinna</i>	Spinner shark	10.34	0.1
	Total – Atlantic croaker		6970.98	--

Table 5, cont.

Target	Species	Common Name	Catch (kg)	% Total Sharks
Mixed	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	399.82	51.1
Teleost	<i>Mustelus canis</i>	Smooth dogfish	199.36	25.4
	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	47.31	6.0
	<i>Carcharhinus acronotus</i>	Blacknose shark	41.73	5.3
	<i>Sphyrna tiburo</i>	Bonnethead shark	41.51	5.3
	<i>Squatina dumeril</i>	Atlantic angel shark	16.14	2.1
	<i>Carcharhinus plumbeus</i>	Sandbar shark	14.89	1.9
	<i>Carcharhinus limbatus</i>	Blacktip shark	12.11	1.5
	<i>Carcharhinus isodon</i>	Finetooth shark	7.53	1.0
	<i>Elasmobranchii</i>	Sharks	3.14	0.4
	Total – Mixed teleost		783.53	--
	Total – All targets		67019.34	--

Table 6. Estimated catch by weight (kg) of commercially important teleosts, back-calculated from estimated lengths of all individuals observed caught in sink gillnet gear by target, 2011.

Target	Species	Common Name	Catch (kg)
Shark	<i>Pomatomus saltatrix</i>	Bluefish	44.15
	<i>Leiostomus xanthurus</i>	Spot	19.53
	<i>Micropogonias undulatus</i>	Atlantic croaker	15.31
	<i>Menticirrhus americanus</i>	Southern kingfish	15.21
	<i>Rachycentron canadum</i>	Cobia	9.72
	<i>Brevoortia smithi</i>	Yellowfin menhaden	9.28
	<i>Larimus fasciatus</i>	Banded drum	2.22
	<i>Brevoortia tyrannus</i>	Atlantic menhaden	2.05
	<i>Scomberomorus maculatus</i>	Spanish mackerel	1.76
	<i>Euthynnus alletteratus</i>	Little tunny	1.44
	<i>Scomberomorus cavalla</i>	King mackerel	1.42
	<i>Peprilus triacanthus</i>	Atlantic butterfish	0.59
	<i>Chloroscombrus chrysurus</i>	Atlantic bumper	0.54
Spanish mackerel	<i>Scomberomorus maculatus</i>	Spanish mackerel	8998.63
	<i>Pomatomus saltatrix</i>	Bluefish	4240.93
	<i>Chloroscombrus chrysurus</i>	Atlantic bumper	219.60
	<i>Euthynnus alletteratus</i>	Little tunny	164.60
	<i>Rachycentron canadum</i>	Cobia	68.53
	<i>Menticirrhus</i> sp.	Kingfish	58.65
	<i>Peprilus triacanthus</i>	Atlantic butterfish	56.35
	<i>Brevoortia smithi</i>	Yellowfin menhaden	44.39
	<i>Menticirrhus americanus</i>	Southern kingfish	30.49
	<i>Scomberomorus cavalla</i>	King mackerel	27.60
	<i>Cynoscion regalis</i>	Weakfish seatrout	21.07
	<i>Brevoortia tyrannus</i>	Atlantic menhaden	17.50
	<i>Leiostomus xanthurus</i>	Spot	7.50
	<i>Larimus fasciatus</i>	Banded drum	6.84
	<i>Chaetodipterus faber</i>	Spadefish	6.71
	<i>Opisthonema oglinum</i>	Atlantic thread herring	6.59
	<i>Micropogonias undulatus</i>	Atlantic croaker	6.59

Table 6, cont.

Target	Species	Common Name	Catch (kg)
Atlantic croaker	<i>Micropogonias undulatus</i>	Atlantic croaker	22111.18
	<i>Brevoortia tyranus</i>	Atlantic menhaden	3436.88
	<i>Pomatomus saltatrix</i>	Bluefish	437.50
	<i>Scomberomorus cavalla</i>	King mackerel	16.87
	<i>Euthynnus alletteratus</i>	Little tunny	14.98
	<i>Peprilus triacanthus</i>	Atlantic butterfish	6.87
	<i>Menticirrhus americanus</i>	Southern kingfish	4.98
	<i>Cynoscion regalis</i>	Weakfish seatrout	2.56
	<i>Lophius</i> sp.	Monkfish anglerfish	1.51
	<i>Leiostomus xanthurus</i>	Spot	1.48
	<i>Rachycentron canadum</i>	Cobia	1.00
	<i>Centropristis striata</i>	Black seabass	0.05
Mixed teleost	<i>Euthynnus alletteratus</i>	Little tunny	186.13
	<i>Pomatomus saltatrix</i>	Bluefish	107.02
	<i>Leiostomus xanthurus</i>	Spot	94.61
	<i>Brevoortia smithi</i>	Yellowfin menhaden	31.43
	<i>Micropogonias undulatus</i>	Atlantic croaker	25.83
	<i>Chloroscombrus chrysurus</i>	Atlantic bumper	16.13
	<i>Menticirrhus americanus</i>	Southern kingfish	13.66
	<i>Scomberomorus cavalla</i>	King mackerel	8.75
	<i>Larimus fasciatus</i>	Banded drum	7.95
	<i>Scomberomorus maculatus</i>	Spanish mackerel	6.18
	<i>Rachycentron canadum</i>	Cobia	4.70
	<i>Peprilus triacanthus</i>	Atlantic butterfish	0.92
	<i>Chaetodipterus faber</i>	Spadefish	0.22
	<i>Centropristis striata</i>	Black seabass	0.14

Table 7. Average size (fork length, FL) and standard deviation (S.D.) of sharks measured for all observed sink gillnet trips by target, 2011.

Target	Species	Common Name	n	Average FL (cm)	S.D.
Shark	<i>Squalus acanthias</i>	Spiny dogfish	154	76.2	4.2
	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	61	71.6	11.4
	<i>Carcharhinus limbatus</i>	Blacktip shark	11	97.6	6.0
	<i>Carcharhinus isodon</i>	Finetooth shark	10	101.6	9.5
	<i>Sphyrna tiburo</i>	Bonnethead shark	10	66.4	17.9
	<i>Carcharhinus acronotus</i>	Blacknose shark	8	84.0	11.7
	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	4	80.8	7.7
	<i>Mustelus canis</i>	Smooth dogfish	1	96.0	0.0
	<i>Carcharhinus brevipinna</i>	Spinner shark	1	60.0	0.0
Spanish mackerel	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	91	59.1	20.5
	<i>Sphyrna tiburo</i>	Bonnethead shark	76	60.5	20.6
	<i>Carcharhinus limbatus</i>	Blacktip shark	4	106.3	11.5
	<i>Carcharhinus acronotus</i>	Blacknose shark	4	90.8	2.6
	<i>Carcharhinus brevipinna</i>	Spinner shark	2	86.5	29.0
	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	1	113.0	0.0
Atlantic Croaker	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	37	79.2	6.7
	<i>Mustelus canis</i>	Smooth dogfish	4	88.8	36.0
	<i>Squalus acanthias</i>	Spiny dogfish	2	79.0	2.8
	<i>Squatina dumeril</i>	Atlantic angel shark	1	98.0	0.0
Mixed Teleost	<i>Mustelus canis</i>	Smooth dogfish	23	83.0	11.3
	<i>Carcharhinus acronotus</i>	Blacknose shark	5	96.4	9.5
	<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	5	71.6	7.7
	<i>Carcharhinus limbatus</i>	Blacktip shark	3	89.0	1.7
	<i>Squatina dumeril</i>	Atlantic angel shark	2	83.5	7.8
	<i>Sphyrna tiburo</i>	Bonnethead shark	2	76.5	3.5
	<i>Carcharhinus isodon</i>	Finetooth shark	1	104.0	0.0

Table 8. Average size (fork length, FL) and standard deviation (S.D.) of non-sharks measured for all observed sink gillnet trips by target, 2011, where sample size ≥ 5 .

Target	Species	Common Name	n	Average FL (cm)	S.D.
Shark	<i>Brevoortia smithi</i>	Yellowfin menhaden	13	20.7	2.0
	<i>Menticirrhus americanus</i>	Southern kingfish	12	30.5	4.4
	<i>Pomatomus saltatrix</i>	Bluefish	10	30.2	2.7
	<i>Micropogonias undulatus</i>	Atlantic croaker	10	25.3	2.1
	<i>Leiostomus xanthurus</i>	Spot	10	20.3	1.1
	<i>Larimus fasciatus</i>	Banded drum	9	20.6	1.7
	<i>Cynoscion</i> sp.	Seatrouts	5	35.8	8.5
Spanish mackerel	<i>Scomberomorus maculatus</i>	Spanish mackerel	1357	43.8	5.7
	<i>Pomatomus saltatrix</i>	Bluefish	517	38.7	5.8
	<i>Peprilus triacanthus</i>	Atlantic butterflyfish	303	16.8	2.3
	<i>Trichiurus lepturus</i>	Atlantic cutlassfish	81	107.1	8.2
	<i>Caranx crysos</i>	Bluerunner jack	81	26.8	1.7
	<i>Euthynnus alletteratus</i>	Little tunny	47	52.3	7.9
	<i>Elops saurus</i>	Ladyfish	32	51.4	5.9
	<i>Trachinotus carolinus</i>	Florida pompano	32	21.9	3.9
	<i>Opisthonema oglinum</i>	Atlantic thread herring	31	21.9	1.9
	<i>Caranx hippos</i>	Crevalle jack	29	22.4	3.7
	<i>Brevoortia smithi</i>	Yellowfin menhaden	26	27.2	1.5
	<i>Menticirrhus americanus</i>	Southern kingfish	25	31.7	4.8
	<i>Peprilus alepidotus</i>	Harvestfish	25	16.1	2.2
	<i>Auxis thaza</i>	Frigate mackerel	21	36.3	3.7
	<i>Cynoscion regalis</i>	Weakfish seatrout	18	35.9	4.4
	<i>Chloroscombrus chrysurus</i>	Atlantic bumper	16	18.1	1.8
	<i>Brevoortia tyrannus</i>	Atlantic menhaden	12	27.4	3.3
	<i>Rachycentron canadum</i>	Cobia	9	51.8	10.3
	<i>Micropogonias undulatus</i>	Atlantic croaker	9	29.0	5.2
	<i>Scomberomorus cavalla</i>	King mackerel	5	73.4	7.5
Atlantic Croaker	<i>Micropogonias undulatus</i>	Atlantic croaker	784	29.9	4.9
	<i>Brevoortia tyrannus</i>	Atlantic menhaden	221	31.9	5.0
	<i>Pomatomus saltatrix</i>	Bluefish	67	37.0	4.0
	<i>Peprilus triacanthus</i>	Atlantic butterflyfish	52	17.8	3.4
	<i>Alosa</i> sp.	Shads	33	39.4	1.6
	<i>Scomberomorus cavalla</i>	King mackerel	6	74.2	8.5
	<i>Leiostomus xanthurus</i>	Spot	6	19.3	0.8
Mixed teleost	<i>Leiostomus xanthurus</i>	Spot	72	19.9	4.0
	<i>Pomatomus saltatrix</i>	Bluefish	19	35.3	4.0
	<i>Euthynnus alletteratus</i>	Little tunny	15	71.4	9.1
	<i>Menticirrhus americanus</i>	Southern kingfish	8	31.0	2.8